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Descriptions of Two New Species and Three New Subspecies of Birds From the Eastern Pacific, Collected by the Hopkins-Stanford Expedition to the Galapagos Islands.

BY EDMUND HELLER AND ROBERT E. SNODGRASS.

I. *Nesomimus melanotis dierythrus*, new subspecies.

Nesomimus melanotis (in part), Gould, Voy. *Beagle*, III, Birds, p. 62, 1841, (Chatham and James Islands, Galapagos); Ridgway, Proc. U. S. Nat. Mus., XIX, 1896, p. 489.

Nesomimus melanotis melanotis (in part), Rothschild and Hartert, Novitates Zoologicae, VI, 1899, p. 145.

Type.—adult male, No. 4565, Leland Stanford Junior University Museum; North Seymour Is- and (near Indefatigable Island) Galapagos Archipelago, April 27, 1899.

Range.—Indefatigable and Seymour Islands, Galapagos Archipelago.

Subspecific characters.—Nearest to *Nesomimus melanotis*. (Gould) of James Island, but somewhat smaller in size; the bill smaller, the length of culmen averaging 22.6 mm., and measuring 23.7 mm. in the specimen with the largest bill, while in *N. m. melanotis* the average length of the culmen is 24.6 mm and our specimen with the longest bill has a culmen of 26 mm; color very similar to that of *N. m. melanotis*, but distinctly paler and of a more reddish-brown hue above, approaching in this respect the color of the Chatham Island form, *N. adamsi*.

Description of the Type.—Upper parts rather light, somewhat reddish-brown, paler and more decidedly reddish on rump. Feathers of fore half of head with less distinct pale edges. Feathers of back dark brown centrally, with light reddish-brown edgings. Hind neck with a mesially interrupted collar of the pale color of the sides. Wings dark brown, the feathers all edged and tipped with buffy-whitish, giving a very pale tone to the under surface of the wing. Upper surface of tail dark brown, lower surface paler brown; feathers with large quadrate whitish terminal spots on the inner webs, those of the outer pair largest—25 mm in length, on the other feathers gradually decreasing in size and distinctness to the middle pair on which they are entirely lacking. Lower parts dull, dirty whitish. Sides suffused with buff. A number of distinct elongate brown spots on sides and flanks. Feathers of leg barred crosswise with brown. Lores, subocular region and auriculars blackish. A white supraocular line reaching from back of the nostril to the supra-auricular region where it is considerably widened. Lower eyelid edged with white. Bill and feet, black. Length 204 mm., wing 109 mm., tail 106 mm., culmen 23.5 mm., tarsus 17 mm.

Sixteen specimens from the Seymour Islands and the neighboring part of Indefatigable Island, Galapagos Archipelago. Collected in April and May.

MEASUREMENTS OF ADULT SPECIMENS OF *Nesomimus melanotis dierythrus*.

L. S. J. Univ. Mus. No.	Sex	Length	Wing	Tail	Culmen	Maxilla from Nostril	Tarsus	Locality
4680	♂	241	103	101	23.5	16.	35.	Indefatigable Island
4694	♂	250	108	103	23.7	1	35.5	"
4664	♀	238	95	93	23.	15.	34.	"
4693	♀	243	103	103	22.	15.5	34.	"
4659			97	90	23.	16.	34.	"
4587	♂	238	110	106	22.7	16.	36.5	North Seymour Island
4565	♂	240	109	106	23.5	17.	35.5	"
4568	♂	242	113	108	23.	16.	34.7	"
4566	♀	229	102	107	22.	16.	34.	"
4563			110	113	23.5	15.5	36.	"
4620	♂	244	109	103	23.5	17.	36.	South Seymour Island
4621	♂	246	107	102	22.5	16.5	36.	"
4635	♂	228	104	95	22.5	15.5	35.5	"
4612	♀	238	104	96	21.5	15.	34.	"
4629	♀	232	103	94	22.	15.	34.	"
4646	♀	240	103	95	23.	15.5	35.	"
Averages		259	105	94	22.6	16.	35.	

2. *Geospiza scandens rothschildi*, new subspecies.

Cactornis assimilis, Scl. and Sal., Proc. Zool. Soc., 1870, p. 323; Sal., Trans. Zool. Soc., IX 1876, p. 486; Sharpe, Cat. Bird Brit. Mus., XII, 1888, p. 18.

Geospiza assimilis, Ridg. Proc. U. S. Nat. Mus., XIX, 1896, p. 537.

Geospiza scandens, Roth. and Hart. Novit. Zool., VI, 1899, p. 165 (part).

Type.—Immature female, No. 5122, Leland Stanford Junior University Museum; Bindloe Island, Galapagos Archipelago, June 21, 1899.

Range.—Bindloe Island, Galapagos Archipelago.

Subspecific characters.—Much like *G. abingdoni* but the bill considerably thicker, the basal depth equal to or greater than length of gonys.

Only immature specimens are in the collection but these differ so much from specimens of *G. abingdoni* of the same age that it is very probable that adults will be found to differ correspondingly. Some of the thickest billed specimens are nearly indistinguishable from small billed specimens of *G. conirostris propinqua* of Tower Island. Some are close to *G. brevirostris*.

MEASUREMENTS OF *Geospiza scandens rothschildi*.

L. S. J. U. Mus. No.	Locality	Sex	Length	Wing	Tail	Culmen	Gonys	Basal Width of Bill	Basal Depth of Bill	Maxilla from Tar- Nostril	sus
5146	Bindloe Id.	im ♂	148	72.	44.5	21.5	12.	9.5	12.	15.	20.
5237	"	" ♂	141	70.5	41.	20.	11.5	8.5	11.5	14.	20.
5145	"	" ♂	147	69.	42.5	21.5	12.	9.	11.5	15.5	23.
5722	"	" ♀	152	70.5	44.	19.5	11.	9.	11.5	14.	21.7
5173	"	" ♀	140	66.5	43.	20.5	10.5	8.5	11.	14.5	21.5
5175	"	" ♀	145	71.	40.	20.	11.	8.	11.5	14.	22.
5163	"	" ♀	144	65.	38.	20.	11.	8.	10.5	14.	20.5

3. *Geospiza fortis platyrhyncha*, new subspecies.

Type.—Adult male, No. 5150 Leland Stanford Junior University Museum; Iguana Cove, Albemarle Island, Galapagos Archipelago, June 7, 1899.

Range.—Iguana Cove, Albemarle Island, Galapagos Archipelago.

Subspecific characters.—Similar in size and proportions to *G. fortis dubia* but mandible considerably wider at the base, 12 mm. or greater.

The three adult black males in the collection differ from adults of *G. fortis dubia* in their wider mandibles but are otherwise indistinguishable.

MEASUREMENTS OF *Geospiza fortis platyrhyncha*.

L. S. J. U. Mus. No.	Locality	Sex	Length	Wing	Tail	Culmen	Gonys	Basal Width of Bill	Basal Depth of Bill	Maxilla from Tar- Nostril	sus
5150	Iguana Cove, Alb. Id.	ad ♂	147	75.	46.	18.5	9.	12.	16	13	22.
4355	"	" ♂	151	77.5	44.	18.	9.5	12.5	15	13	23.
4351	"	" ♂	148	76.	46.	18.5	9.	12.	16	13	22.
	"	" ♀	142	74.5	43.5	18.5	9.7	12.	16	13	22.
	"	" ♀		71.	45.	18.	9.7	12.	15	13	21.5

4. *Sula nesiotes*, new species.

Sula brewsteri, Roth. and Hart. Novit. Zool., VI, 1899, p. 179. (11°, 20' N; 110°, W.)

Type.—Adult male, No. 4271, Leland Stanford Junior University Museum; Clipperton Island, Nov. 23, 1898.

Range.—Clipperton Island and adjacent waters.

Specific characters.—Similar to *S. brewsteri* but brownish of head and upper parts considerably paler; bill and feet greenish; proportions averaging somewhat greater.

Description of the Type.—Adult male, Upper parts, excepting head and neck, light sooty-brown, deepening on the primaries into purplish-brown; sides of chest and under wing coverts, excepting an oblique white bar across the middle, brown like the dorsum; head above and on sides white, with a yellowish tinge, becoming ashy or light drab-gray below and posteriorly, gradu-

ally shading into smoky-drab on the chest and hind neck; the color of the chest ending abruptly against the white of the belly. The under parts posterior to fore-breast and axillaries and an oblique bar across middle of under wing coverts white. Coloration of naked parts in life: bill yellowish-green, becoming more greenish basally; gular sac dark pea-green; bare skin before eye purplish-violet; feet pea-green. Length 720 mm., wing 384 mm., tail 200 mm., culmen 94 mm., depth of bill 32 mm., tarsus 46., middle toe 80 mm.

Adult female like the male in coloration, excepting the head and neck which are uniform with the back in color, the feathers bordering the naked parts of the head slightly grayer. Size somewhat larger than in the male.

Compared with specimens of *S. brewsteri* from Cocos Island, the Clipperton specimens are conspicuously lighter with green bills and with feet greenish rather than yellowish. This is a common bird on Clipperton Island where it breeds in company with *S. cyanops* on the flat expanse of the coral beach bordering the lagoon.

MEASUREMENTS OF *Sula nesiotus*.

L. S. J. U. Mus. No.	Locality	Sex	Length	Wing	Tail	Tarsus	Culmen	Basal Depth of Bill.	Middle Toe
4271	Clipperton Id.	ad ♂	720	384	200	46	94	34	80
4279	"	" ♀	800	416	220	48	98	33	86
4275	"	" ♀	840	404	190	49	102	37	89
4272	"	" ♀	800	405	220	45	101	35	86

5. *Micranous diamesus*, new species.

Type—Adult male; No. 5079 Leland Stanford Junior University Museum; Cocos Island, July 1, 1899.

Range—Cocos and Clipperton Islands, tropical eastern Pacific.

Specific characters.—Near *Micranous hawaiiensis* Rothschild of the Hawaiian Islands, but differs from this species in being darker on the shoulders, on the lower part and sides of the neck and on the sides of the head, and in having a more slender and shorter bill and shorter tarsus.

Description of the Type—Forehead and top of head almost pure white, back part of head and nape with a plumbeous tinge. Back of neck plumbeous, darkening into dark plumbeous on shoulders and then into brown on the mantle. Rest of upper parts, except upper tail-coverts and tail, dark dusky brown; outer webs of outer primaries sooty-brown, almost black. Upper tail-coverts and tail, dark plumbeous-gray. Under parts dark dusky-brown, darkest on lower breast and on belly. Lower tail-coverts somewhat lighter plumbeous-brown. Tail below same color as above. Lores and line extending from lores over eye to middle of posterior side of eye, black, a small white spot in this line above posterior part of eye. Lower two-thirds of lower eyelid white. Cheeks deep dark plumbeous, pale color of back of head and neck scarcely extending upon lateral parts. Length 388 mm., wing 224 mm., tail 130 mm., culmen 45.3 mm. tarsus 21.5 mm.

Immature male.—Top of head pure white, with a few brown feathers posteriorly. Outer webs of outer primaries blackish-brown, that of the first almost black. Lores, supraocular line and cheeks, dusky brown. All other parts pure dark brown, but with no dusky tinge except on the lower part of the throat.

Adult female.—Does not differ from the adult male.

In *Micranous hawaiiensis* the pale slaty plumbeous color of the back of the head and neck reaches so far ventrally on the sides of the head, neck and even on the upper part of the breast, that there is distinctly marked off on the chin and throat a median longitudinal area of dark plumbeous-brown well defined on each side against the paler lateral parts.

Micranous diamesus is intermediate between *M. leucocapillus* Gould of the Caribbean Sea, Atlantic and Indian Oceans and the western Pacific, and *M. hawaiiensis* Rothschild of the Hawaiian Islands in both color of the plumage and the size of bill.

One adult male, four adult females and two immature females from Cocos Island

in July, and one immature male and two immature females from Clipperton Island in November.

We are indebted to Mr. R. C. McGregor for the loan of an immature male of *Micranous hawaiiensis*, and to Mr. Wm. Alauson Bryan for an adult male of the same species from the Bernice Pauahi Bishop Museum of Honolulu.

MEASUREMENTS OF *Micranous diamesus*.

L. S. J. U. Sex Mus. No.	Length	Wing	Tail	Culmen	Depth of Bill at Base	Mrxilla from Nostril	Gonys	Tarsus	Middle Toe	Locality
5079 ad ♂	388	224	130	45.3	8.7	33	30	21.5	28.3	Cocos Island
5015 " ♀	360	241	131	43.	8.3	32	28	21.	26.5	"
5205 " ♀	372	233	130	43.5	9.	31	28	20.	26.7	"
5111 " ♀	356	223	121	43.	8.7	31.5	29	21.	25.7	"
5026 " ♀	370	231	129	43.5	8.	32.	30	21.	26.5	"
Averages	369	230	128	43.6	8.4	32.	29	21.	26.9	"
5249 im ♀		233	123	43.5	9.	31.	28	21.	27.	"
5036 " ♀		230	120	45.5	8.3	31.5	30	21.	29.5	"
3825 " ♀	360	223	121	44.	8.7	31.5	28	20.5	27.	Clipperton Id
3819 " ♀	368	225	121	43.5	8.5	32.	30	21.	27.	"

MEASUREMENTS OF *Micranous hawaiiensis*.

ad ♂	382	225	125	38.5	8.	28.	28	21.5	24.	Hawaiian Ids
im ♂		210	118	38.	7.5	25.	25	20.	24.	"

♂ ♂ ♂ ♂ ♂

Two Years With Mexican Birds. II. In the Haunts of the Trogon.

BY E. H. SKINNER.

EARLY one morning I took a heavy machete and a revolver, the machete to cut my way through the heavy underbrush and tangled hanging vines, and the revolver because a gun is carried with difficulty in the woods where one has to do as much crawling as walking. Collecting in the tropics is not exactly easy, taking mosquitos, temperature and a few other pleasant things into consideration.

Well, I started out; the morning was lovely, a trifle warm to be sure for there was not a cloud in sight and not a breath of air stirring. The way to the woods lay through the cafetal where Gray's Robin (*Merula grayi*), the most beautiful of Mexican songsters, was everywhere present, filling the air with its merry song, and Giraud's Flycatcher (*Myiozetetes texensis*) were squabbling in different parts of the plantation.

We are soon in the woods, however, where the birds are more sedate. Toucans, motmots and trogons are the interesting birds, on account of their plum-

age I suppose, for they do little but sit in the shade and meditate. The trogon family, including several species, are the loveliest birds to be found in Central America. They are graceful in form, retiring in habits, and for diversity and brightness of plumage are not equalled by any other birds of their range.

Trogons are found over all the country but more particularly in the highlands where their pleasant note can be heard at any time in the woods, and where they usually remain, rarely venturing into the open because their slow flight would make them an easy prey to the raptors. *Trogon caligatus*, the commonest variety in the vicinity of the plantation, is a model representative of his genus, with his bright changeable colors. The remarkable point about him is the smallness and weakness of his tarsi and toes, which would scarcely answer for a sparrow.

I had not taken any eggs of this species up to the time of the present trip and knew practically nothing of